REMARKS

In response to the Official Office Action dated April 30, 2007, claims 3, 6, 20, 21, 25, and 42 have been amended. These amendments have been made to address the claim objections and the rejections under 35 U.S.C. § 112. It is believed that these amendments place the claims in condition for allowance and reexamination of this application is therefore respectfully requested.

The claims are directed to a method and apparatus for implementing common rate control in a reverse link channel in a CDMA network. A base station periodically (e.g., once per frame) estimates the reverse link load and broadcasts a quantized load indication to the mobile stations transmitting on the reverse link channel. The mobile stations dynamically adjust their data transmission rates based on the periodic load indications from the base station. In one exemplary embodiment, the mobile stations calculate a load tracking value based on two or more periodic load indications, and then calculate a rate change probability as a function of the load tracking value. The rate change probability computed at each mobile station determines the probability that it will change its data transmission rate in the current evaluation period. As a result, some of the mobile stations will change rates while other mobile stations will continue to transmit at their current rate.

Independent claims 1 and 23 have been rejected under 35 U.S.C. § 102 in view of the patent to Cheng et al., U.S. 6,999,425 (Cheng). Cheng discloses a method and apparatus for setting a maximum rate limit for a reverse link in a CDMA system. The rate limit setting is used to tell the mobile station what the current maximum data transmission rate is for the reverse link. In Cheng, the aggregate data transmission rate for all mobile stations transmitting on the reverse link is computed. The aggregate data transmission rate is then filtered and normalized to obtain the maximum achievable aggregate date rate for the reverse link. The final result is

compared with a set of thresholds to obtain the maximum rate limit that is set for each mobile station.

The patent to Cheng is only tangentially related to the claims. Cheng describes a method implemented at a base station to set a maximum rate limit for the reverse link channel. In contrast, the claims relate to a method implemented by a mobile station to dynamically adjust their data transmission rate. Cheng is concerned only with how to set the maximum rate limit, but does not describe how the mobile stations adjust their data transmission rates. In Cheng, the base stations determine the reverse link load and use the reverse link load to compute the maximum rate limit. There is no indication in Cheng that a load indication is transmitted to the mobile stations.

Claim 1 is directed to a method of adjusting the transmission rate of a mobile station and includes four elements. The first element is "receiving periodic load indications from a base station." As noted above, there is no indication that the base station in Cheng transmits a periodic load indication to the mobile stations. Instead, Cheng uses the reverse link load to compute a maximum rate limit for the mobile stations. There is no need in Cheng to send reverse link load indications to the mobile station. Claim 1 further recites "calculating a load tracking value based on two or more periodic load indications," and "determining a rate change probability as a function of the load tracking value." There is no mention in Cheng of a "load tracking value" or a "rate change probability." Finally, claim 1 recites "selectively changing the transmission rate of the mobile station responsive to a current rate control command based on the rate change probability." Cheng does not disclose selectively changing data rate based on a rate change probability.

In short, Cheng discloses none of the elements of claim 1. Accordingly, claim 1 does not be anticipated by Cheng.

Claim 23 is directed to a mobile station that practices the method set forth in claim 1. Claim 30 recites "a receiver for receiving periodic load indications from a base station," and "a controller to vary the data transmission rate of the mobile station." Claim 23 further recites that the controller is configured to "calculate a load tracking value based on two or more periodic load indications," "determine a rate change probability as a function of the load tracking value," and "selectively change the data transmission rate of the mobile station responsive to a current rate control command based on the rate change probability." As discussed above, Cheng does not disclose "receiving periodic load indications from a base station." Further, Cheng does not disclose the claimed functions of the controller. Specifically, Cheng does not disclose calculating a load tracking value, determining a rate change probability based on the load tracking value, or selectively changing the data transmission rate as set forth in claim 23. Consequently, Cheng dos not anticipate claim 23.

The patent to Soliman, U.S. Patent No. 6,490,460, discloses a method and apparatus for dynamically adjusting a power control loop for either forward link or reverse link communications. Applicant notes that Soliman relates to a method of power control, as compared to the claimed invention, which relates to a method of rate control. Soliman is cited only against claims 8-11 and 30-33. There is no indication by the Examiner that Soliman discloses the elements of independent claims 1 and 23.
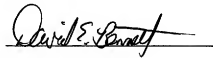
The patent to Black, U.S. Patent No. 6,397,070, discloses a method and apparatus for estimating reverse link loading in a wireless communication system. The background of the invention suggests that the reverse link loading may be used for access control; that is, to admit or deny access to the system based on the reverse link load. There is no discussion of rate control. Further, Black does not disclose the calculating, determining, and selecting operations set forth in independent claims 1 and 23.

Finally, the claims are rejected for non-statutory obviousness type double patenting in view of co-pending application 10/876,979. A terminal disclaimer is submitted herewith to obviate the double patenting rejection.

Based on the foregoing, it is believed that the claimed invention is patentable over the prior art made of record and withdrawal of the rejections under 35 U.S.C. § 102 and § 103 is respectfully solicited.

Respectfully submitted,

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